

AMENDMENTS TO THE SPECIFICATION

Please amend the specification as follows, by inserting the underlined matter and deleting the matter lined through or in brackets:

- [0031] The drive chain 18 is driven adjacent a cam track 23 that extends about the drive and driven gears 15 and 16, and shackle supports 25 are carried at spaced intervals by the drive chain and project on the opposite side of the cam track 23 from the drive chain 18. Shackles, such as shackles 26A and 26B of Fig. 2, are rotatably supported by the shackle supports and are oriented in a vertical attitude. The upper ends of the shackles 26 are each connected to a turning gear, 28 that functions to rotate its shackle.
- [0034] The rotary guides 12 and 14 each include a plurality of guide blocks 33, 34 for guiding the wings as they travel around the rotary guides 12 and 14. The primary segment rotary guide 12 includes guide blocks 33 at equally spaced intervals about the perimeter of the rotary guide, and the mid-wing segment rotary guide 14 includes its guide blocks 34, also at equally spaced intervals about the perimeter of the rotary guide 14. The guide blocks 33 and 34, which can be of various configurations, form a surface against which the poultry wings engage as the poultry wings are moved by the shackles about the rotary guides 12 and 14.
- [0037] As illustrated in Fig. 2, each shackle 26, such as shackle 26A, includes a support stem 36 oriented in an upright attitude and connected at its upper end to a turning gear 28 and carried by a shackle support 25 (Fig. 3). The lower end portion of each shackle includes a U-shaped, horizontally extending carrier 37 that defines an elongated horizontally oriented shackle slot 38 that is open at one end. The person loading the poultry wings 39 on the shackles inserts the tip segments 40 of the wings through the open ends of the carriers 37 of the shackles 26. There are

small protrusions from the tip segments 40 that help maintain the wing segments in the slots 38 of the carriers 37 of the shackles. The tip segments become wedged by friction in the slots and the mid-wing segments 41 are suspended below the tip segments 40 and the primary segments 42 are suspended below the mid-wing segments 41. The worker is careful to orient each wing 39 so that when the shackle is turned to its operative position (Fig. 5), the outside surface of the wing is oriented to the outside of the processing path. This is true for both left and right wings of the carcass, so that in one situation the right wing will have its elbow joint leading in the direction of movement of the wing through the system, and when the left wing is loaded, it will have its elbow joint trailing the wing through the process. This is desired so that the direction of bending of the primary segment of the wing is always toward the outside of the wing, which is the direction in which the opening of the elbow joint can more effectively take place, with less force and with more reliable wing opening without fracture of the bones. This is due to the anatomical structure of the right and left elbow joints of a chicken and of other poultry species.

[0038] As illustrated in Fig. 6, the poultry wings 39 engage a mid-wing guide 44 intermediate the ends of the mid-wing segments. The mid-wing guide is in the form of a stationary curved rod that extends in the processing path adjacent the perimeter of the rotary guide 14. The mid-wing guide urges the mid-wings against the perimeter surface of the primary segment rotary guide 12. In the meantime, the guide blocks 33 move in behind the wings 39 at a faster speed than the movement of the wings until the wings begin to move in an arcuate path about the rotary guide. This assures that the guide blocks 33 will always be properly positioned immediately behind the wings 39 and urge the wings through the arcuate path as the wings are being frictionally engaged by the mid-wing guide 44 and the other guides hereinafter described.[.] This properly orients the wings for the subsequent processes.

[0039] As the wings 39 continue in sequence about the rotary guide 12, they are engaged by elbow guide 46 that is spaced below the mid-wing guide 44 and which engages at first slightly above the elbow joints 47 of the wings that connect the primary segments 42 to the mid-wing segments 41. This begins the opening of the elbow joints of the wings. The elbow guide 46 also is in the form of a curved rod.

[0040] In the meantime, a bending guide 48 also extends in the curved processing path, but at a level lower than the rotary guide 12. The bending guide, in the form of a curved rod, is sloped from inside the wings 39, outwardly and upwardly, and engages against the primary segments 42 of the wings so as to bend the primary segments 42 laterally and then upwardly about the elbow guide 46. This pivots the bone ends of the primary segments 42 laterally away from the bone ends of the mid-wing segments 41 and opens the elbow joints of the wings. This movement of the bone ends of the primary segments about the elbow guide 46 stretches the tissue extending between the bone ends and tends to separate the tissue from about the bone ends of the primary segments at the elbow joints while the tissue remains connected to the bone ends of the mid-wing segments.

[0045] As illustrated in Fig. 12, the tip segment guide 52 urges the tip about the lower perimeter edge of the rotary guide 14, urging the bones of the mid-wing segment 41 laterally inwardly beneath the rotary guide 14. The compression of the tip segments together with the lateral force applied to the mid-wing segments urges the bone ends 55, 56 of the mid-wing segment adjacent the tip segment to break away from the tip segment. This tends to “pop” the ends 55 and 56 of the bones of the mid-wing segment 41 out of the skin and other tissue extending between the tip segment 40 and the mid-wing segment 41.